

STUDIES OF NEOTROPICAL COMPOSITAE—I. NOVELTIES IN CALEA, CLIBADIUM, CONYZA, LLERASIA, AND PLUCHEA

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ABSTRACT

The combinations *Calea mediterranea* (Vell.) Pruski (syn.: *Calea platylepis*) and *Calea triantha* (Vell.) Pruski, (syn.: *Calea hispida*) (Heliantheae) are proposed for two species lectotyped herein by Velloso illustrations. A lectotype of *Meyeria hispida* DC. is designated. A key to the species centering about *Calea myrtifolia* is given. *Clibadium arriagadae* Pruski (Heliantheae) from Ecuador is named as a new segregate of *Clibadium pentaneuron*. *Clibadium arriagadae* is the same taxon as represented by the invalid *Clibadium zakii*. *Clibadium arriagadae* differs from *C. pentaneuron* by leaf blades palmately 3- or 5-veined from or near base (vs. subpalmately or plinerved from above blade base) and hirsute (vs. strigose) abaxially. A lectotype (BM-CLIFF folio page 405, *Conyza* 3) is designated for *Conyza bifrons* L. (= *Inula bifrons* L., Inuleae), and this name, once misapplied to an American species of *Pluchea*, is excluded from the flora of the New World. The combination *Conyza popayanensis* (Hieron.) Pruski (Astereae), replacing the illegitimate *Conyza uliginosa* (Benth.) Cuatr., non. Pers., is proposed. The combination *Llerasia macrocephala* (Rusby) Pruski (Astereae) is validated for a Bolivian species originally described in tribe Mutisieae, and *Llerasia lucidula* is treated as a synonym of *L. macrocephala*. Philip Miller's *Conyza baccharis* is lectotyped and is an earlier name for *Pluchea rosea*. The combination *Pluchea baccharis* (Mill.) Pruski (Plucheeae) is made for this coastal plain species, which occurs from eastern North America southward into Nicaragua.

RESUMEN

Se proponen las combinaciones *Calea mediterranea* (Vell.) Pruski (syn.: *Calea platylepis*) y *Calea triantha* (Vell.) Pruski, (sin.: *Calea hispida*) (Heliantheae) para dos especies que se lectotifican aquí mediante ilustraciones de Velloso. Se designa un lectotipo para *Meyeria hispida* DC. Se ofrece una clave para las especies próximas a *Calea myrtifolia*. *Clibadium arriagadae* Pruski (Heliantheae) de Ecuador se nombra como un nuevo segregado de *Clibadium pentaneuron*. *Clibadium arriagadae* es el mismo taxon representado por el nombre inválido *Clibadium zakii*. *Clibadium arriagadae* difiere de *C. pentaneuron* por los limbos de las hojas palmatinervias con 3 ó 5 nervios desde de la base o cerca (vs. subpalmatinervias o triplinervias desde más arriba de la base) e hirsutas (vs. estrigosas) abaxialmente. Se designa un lectotipo (BM-CLIFF folio página 405, *Conyza* 3) para *Conyza bifrons* L. (= *Inula bifrons* L., Inuleae), y este nombre, por haberse aplicado a una especie americana de *Pluchea*, se excluye de la flora del Nuevo Mundo. Se propone la combinación *Conyza popayanensis* (Hieron.) Pruski (Astereae), para reemplazar a la ilegítima *Conyza uliginosa* (Benth.) Cuatr., non. Pers. Se valida la combinación *Llerasia macrocephala* (Rusby) Pruski (Astereae) para una especie de Bolivia descrita originalmente en la tribu Mutisieae, y *Llerasia lucidula* se trata como un sinónimo de *L. macrocephala*. *Conyza baccharis* de Philip Miller se lectotifica y es un nombre anterior para *Pluchea rosea*. Se hace la combinación *Pluchea baccharis* (Mill.) Pruski (Plucheeae) para esta especie de la llanura costera, que aparece desde el Este de Norte América hasta Nicaragua en el Sur.

The purpose of this note is to validate names in *Calea* L., *Clibadium* E. Allam. ex L., *Conyza* Less., *Llerasia* Triana, and *Pluchea* Cass. needed in various floristic works of Neotropical Compositae being done at the Missouri Botanical Garden, and to lectotypify *Conyza bifrons* L., which is excluded from the flora of the Americas.

CALEA

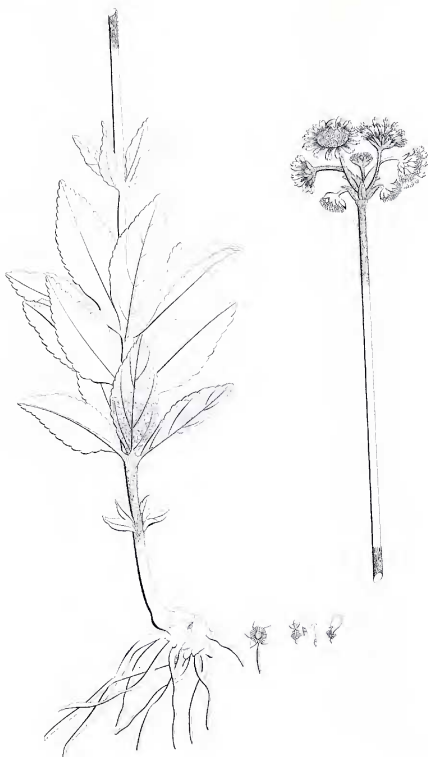
Jose Velloso prepared *Flora fluminensis*, a landmark flora for the environs of Rio de Janeiro, Brazil in 1790, but died in 1811 prior to its publication. The text was printed in 1825 (Velloso 1825) and distributed in 1829. The text, however, remains incomplete, treating species corresponding to icones published only in volumes 1–8 (8 pro parte). No text is available for species illustrated volume 8 (pro parte), nor for those in volumes 9–11. The Compositae comprise all of volume 8 and part of volume 10, but text is available for about only the first half of the 16+ icones (Velloso 1827) published in volume 8. The 11 volumes of figures are dated 1827 (Velloso 1827), but were distributed only in 1831. Thus, 1831 is taken as the date of validation of species represented only by these diagnostic icones, but without corresponding text. It is the plates of two such Velloso names (Figs. 1 & 2) that are clearly identifiable with two South American species of *Calea* (Heliantheae; syn. Neurolaeneae), new combinations for which are made below. No type specimens of these two names are known to exist, and consequently the illustrations are designated as the lectotypes.

Calea mediterranea (Vell.) Pruski, comb. nov. (Fig. 1). *Bupthalmum mediterraneum* Vell., Fl. Flumin. (Icones) 8, t. 135, 1827 [1831]. LECTOTYPE (designated here): t. 135, Vell., Fl. Flumin. (Icones) 8, 1827 [1831].

Calea platylepis Schultz-Bip. ex Baker in Martius, Fl. bras. 6(3):267, 1884. Lectotypification from among the dozen or so syntypes is deferred.

Distribution and ecology.—*Calea mediterranea* (Vell.) Pruski is a xylopodial subshrub flowering from October to April. It occurs in the Brazilian planalto southwards into Paraguay and northern Argentina.

Calea mediterranea is a member of *Calea* sect. *Haplocalca* (Less.) Pruski (Pruski 1998 sub *Calea platylepis*), and is closely related to *C. cymosa* Less., the type of the section. This section is characterized by generally whorled leaves and umbelliform capitulescences. *Calea mediterranea* differs from *C. cymosa* Less. by narrower, pubescent, pinnately veined (vs. broader, nearly glabrous, 3- or 5-plinerved) leaves and by lanceolate, pubescent (vs. ovate, glabrous) outer phyllaries. Additionally, the lower most whorl of leaves in *C. mediterranea* is often reduced, as illustrated by Velloso (1827), a feature not typical of *C. cymosa*. The radiate capitula of *C. mediterranea* and *C. cymosa* distinguish each of them from the otherwise closely related *C. hassleriana* Chod. and *C. reticulata* Gardner (syn. *Ichthyothere ternifolia* Baker), which have discoid capitula.

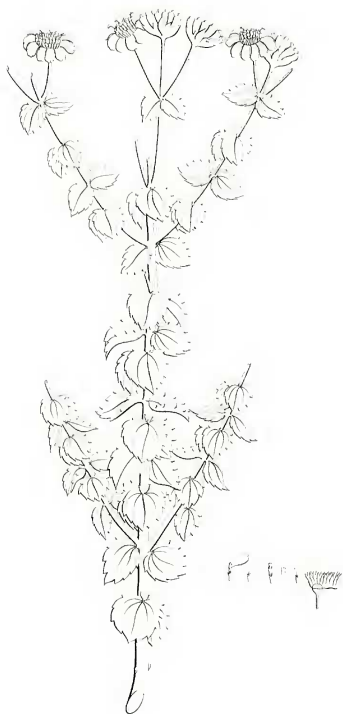


Syn. Polg. Superf.

BUPHTHALMUM MINUS CALEA MEDITERRANEA

(Tab. 155.)

FIG. 1. Lectotype of *Buphthalmum mediterraneum* Vell. [= *Calea mediterranea* (Vell.) Pruski], from Velloso, Fl. Flumin. (Icones) 8: t. 135. 1827 [1831].



Syng. Polyg. Superf.
 ASTER TRIANTHUS
 (Tallio)

FIG. 2. Lectotype of *Aster trianthus* Vell. [= *Calea triantha* (Vell.) Pruski], from Velloso, Fl. Flumin. (Icones) 8: t. 120. 1827 [1831].

***Calea triantha* (Vell.) Pruski, comb. nov. (Fig. 2).** *Aster trianthus* Vell., Fl. Flumin. (Icones) 8: t. 120. 1827 [1831], LECTOTYPE (designated here): t. 120, Vell., Fl. Flumin. (Icones) 8. 1827 [1831].

Meyeria hispida DC., Prod. 5: 671. 1836. *Calea hispida* (DC.) Baker in Martius, Fl. Bras. 6(3): 261. 1884. LECTOTYPE (chosen here from among syntypes): BRAZIL: SÃO PAULO, campis editis, Nov. 1833, Lund 866 (LECTOTYPE: G-DC [IDC microfiche 800. 975.III.3]; ISOLECTOTYPES: C-4, S). The G-DC lectotype also has a small twig of *H. Imp. Bras.* 405 mounted to the lower right of the Lund collection. [Lectoparatype: *Herb. Imperial Brasil* (probably Vauthier) 405: G-DC (fragment of a sheet from P), F (fragment of a sheet from P), P-2.]

Distribution and ecology.—*Calea triantha* (Vell.) Pruski is a subshrub to shrub endemic to Brazil, where it is centered in the state of Paraná. It is known to flower from December to April.

Calea triantha is one of 13 species of the *C. myrtifolia* DC. species group (sensu Pruski 1984; Pruski & Urbatsch 1988) of *Calea* section *Meyeria* (DC.) Benth. & Hook.f. Pruski and Urbatsch (1988) provided a key to the then-known members of this group. Their key is revised herein, incorporating the above new synonymy and *C. semirii* Pruski & Hind, which was described subsequently (Pruski & Hind 1998).

KEY TO THE SPECIES CENTERING ABOUT *CALEA MYRTIFOLIA* (*CALEA* SECT. *MEYERIA*)

1. Leaves glabrous, entire, margins thickened (São Paulo and Paraná, Brazil) ____ ***Calea marginata***
S.F. Blake
1. Leaves glabrous to hispid, entire to serrate, margins not thickened.
 2. Leaves lanceolate, ca. 6–12 cm long, venation parallel, ca. 3–7-veined (Goiás, Brazil) ____ ***Calea nervosa*** Barroso
 2. Leaves lanceolate to cordate, less than 6.5 cm long, venation pinnate to trinervate.
 3. Capitula one per branch.
 4. Leaves lanceolate-elliptic, foveolate below (São Paulo and Paraná, Brazil) ____ ***Calea parvifolia*** (DC.) Baker
 4. Leaves elliptic-ovate, smooth below.
 5. Peduncle ca. 8–15 cm long (Paraná and Santa Catarina, Brazil) ____ ***Calea ilienii***
Malme
 5. Peduncle ca. 1.5–6 cm long (Paraná, Brazil) ____ ***Calea monocephala*** Dusén
 3. Capitulescence cymose.
 6. Leaves whorled.
 7. Leaves generally four per node, essentially sessile, smooth, pinnate; peduncles 3–15 cm long; ray corolla limb 5–13-nerved; outer phyllaries and leaves green below; pappus scales subequal in length (Distrito Federal and Goiás, Brazil) ____ ***Calea quadrifolia*** Pruski & Urbatsch
 7. Leaves generally three per node, shortly petiolate, rugulose, trinervate; peduncles 0.5–6 cm long; ray corolla limb 5-nerved; outer phyllaries and leaves rust-colored below, less commonly green; pappus scales slightly to greatly unequal in length (Minas Gerais, Brazil).
 8. Leaves adaxially glabrous or nearly so; involucre campanulate to hemispherical; outermost phyllaries at least apically herbaceous, about as long as the next series; ray corollas yellow, tube 2.7–3.5 mm long, limb 12–14.5 mm long, commonly abaxially glandular; disk

corolla tube shorter than the throat; cypselae 2.5–3.2 mm long, with 1–3 pappus scales often much longer than the others ____

Calea heteropappa
Pruski & Urbatsch

8. Leaves adaxially hispidulous to sparsely pilose; involucre turbinate to cylindrical; outermost phyllaries mostly scarious, usually much shorter than the next series; ray corollas pale yellow, tube 3.6–4.5 mm long, limb 7–8.5 mm long, abaxially eglandular; disk corolla tube about as long as the throat; cypselae 3.8–4.8 mm long, pappus scales generally slightly unequal ____ **Calea semirii** Pruski & Hind
6. Leaves opposite.
 9. Leaves ovate, hispidulous to hispid, serrate, basally cordate, usually shorter than 2.5 cm (Minas Gerais south to Santa Catarina, Brazil; syn. nov. *Calea hispida*) ____ **Calea triantha** (Vell.) Pruski
 9. Leaves elliptic to elliptic-ovate, glabrous to pubescent, entire to serrate, basally cuneate, longer than 2.5 cm.
 10. Leaves to 3.5 cm wide, shiny, serrate, glabrous; foliaceous outer phyllaries serrulate (Paraguay) ____ **Calea chodatii** Hassler
 10. Leaves less than 2.5 cm wide, somewhat shiny or not, entire to serrulate, glandular or puberulent; foliaceous outer phyllaries entire.
 11. Leaves narrowly elliptic; capitula ca. 65-flowered; ray corolla limb 8–10-nerved; disk corolla lobes longer than 1.5 mm; cypselae glabrous (Rio Grande do Sul, Brazil and Uruguay) ____ **Calea kristinae** Pruski
 11. Leaves elliptic to broadly elliptic; capitula ca. 35-flowered; ray corolla limb 5(–7)-nerved; disk corolla lobes shorter than 1.5 mm; cypselae pubescent on angles.
 12. Leaves entire, ca. 1.5 cm wide (Minas Gerais south to Rio Grande do Sul, Brazil) ____ **Calea myrtifolia** (DC.) Baker
 12. Leaves serrulate, to ca. 2.5 cm wide (coastal São Paulo south to Rio Grande do Sul, Brazil) ____ **Calea phyllolepis** Baker

CLIBADIUM

Arriagada (1995) provided an overview of *Clibadium* (Compositae: Heliantheae), including full synonymy and a key to species. In this overview, Arriagada reduced to synonymy all four northern South American names of *Clibadium* proposed by Robinson (1992). A monograph of *Clibadium* has now been published (Arriagada 2003), and again all names in *Clibadium* proposed by Robinson (1992) are listed as synonyms. I agree with Arriagada (1995, 2003) that *C. pentaneuron* S.F. Blake includes the synonymous *C. funkiae* H. Rob.; *C. laxum* S.F. Blake includes *C. alatum* H. Rob.; and *C. glabrescens* S.F. Blake includes *C. napoense* H. Rob. Thus, three validly described species in Robinson (1992) are encompassed within more widespread taxa, these originally described by Blake in the 1920s and 1930s. A fourth name (*C. zakii*) in Robinson (1992) was based on *Zak & Jaramillo* 2881 (MO, US) but without “the single herbarium” housing the holotype being “specified.” This name is consequently invalid (Art. 37.6 of the Code, Greuter et al. 2000) and does not exist nomenclaturally. This plant belonging to *Clibadium* section *Clibadium* is validated here with a new

type collection and a new epithet honoring my friend Dr. Jorge Arriagada, the monographer of the genus.

Clibadium arriagadae Pruski, sp. nov. (**Fig. 3**). TYPE ECUADOR. COTOPAXI: road between Quevedo & Lacacunga, 76 km E of Quevedo, 0°57'S, 79°01'W, 2300 m, 5 Apr 1983, *Croat 55804* (HOLOTYPE: MO; ISOTYPE: QCNE)

A *C. pentaneuron* affinis, sed laminae palmativenosae (non subpalmativenosae vel pinnativenosae), rotundata vel truncata (non cuneata), et subtus hirsuta (non strigosa) diversa.

Shrubs to ca. 2 m tall; stems sometimes vining, subterete to subhexagonal, hirsutulous. **Leaves** simple, opposite, petiolate; petioles 0.8–3.5 cm long, hirsute; blades broadly ovate, 4–15.5 cm long, 2–11 cm wide, stiffly chartaceous, palmately 3- or 5-veined from or near base, secondary and tertiary reticulation prominent, base rounded to truncate, margins serrulate, apex acute to acuminate, the adaxial surface scabrid, hirsutulous, the abaxial surface hirsute, eglandular. **Capitulescence** terminal, many-headed, loosely corymbiform paniculate, branches 2–14 cm long, hirsute, ultimate branching trichotomous. **Capitula** 10–12-flowered, disciform, shortly pedunculate, 4–5 mm tall; involucre hemispherical; phyllaries ca. 3-seriate, subequal to weakly graduated, stiffly chartaceous, weakly 3–5-veined adaxially, apically hirsutulous, otherwise glabrous, to ca. 4.5 mm long, 2–2.5 mm wide, outer ones pyriform, apically acute to acuminate, mid-series and inner ones ovate, apically obtuse to rounded; receptacle convex-conical, to ca. 1 mm broad, weakly paleate; paleae lanceolate, to ca. 3 mm long, weakly conduplicate; peduncles 1–2 mm long, terete, glabrous to hirsutulous, one-bracteolate, bracteole lanceolate, 1–2 mm long, hirsute. **Marginal florets** uniseriate, pistillate, 5 or 6, mostly included within involucre; corolla ca. 2 mm long, tubular, cream-colored, apically pilosulose with non-glandular trichomes, minutely ca. 3-lobed, style branches ca. 1 mm long, weakly exserted. **Disk florets** functionally staminate, 5 or 6, mostly included within involucre; corolla broadly funnelform, ca. 2.5 mm long, cream-colored, 5-lobed, lobes deltoid, erect, 0.5–0.9 mm long, pilosulose with non-glandular trichomes; anthers generally included, to ca. 1.7 mm long, dark greenish to black, appendage elongated but not greatly sculptured, basally short-sagittate, filaments ca. 0.3 mm long; style undivided, apex often exserted from corolla; ovary rudimentary. **Cypselae** oblong, flattened, 2–2.5 mm long, apically papillose, otherwise glabrous or nearly so, epappose.

PARATYPE: ECUADOR. BOLIVAR: Carretera Chillanes-Bucay, en la hacienda "Tiquibuso" del Sr. Gonzalo Gómez, 1°55' S, 79°05' W, 2100 m, 10 Sep 1987, *Zak & Jaramillo 2881* (F, MO, US).

Distribution and ecology.—This species is known only from the Pacific drainage slopes of the Andes in Bolívar and Cotopaxi, Ecuador. It has been collected in flower in April and September from 2100–2300 meters elevation.

Clibadium arriagadae differs from *C. pentaneuron* by leaf blades mostly palmately 3- or 5-veined from or near base (vs. subpalmately or plinerved from



FIG. 3. *Clibadium arriagadae* Pruski. Above: Branches of capitulescence showing patent (not strigose) indumentum. Below: Abaxial surface of leaf showing trinerved venation from very base of blade. (Photographs of the holotype, Croat 55804, MO).

well above blade base), these rounded (vs. cuneate) basally and hirsute (vs. strigose) abaxially. The types of the *C. funkiae* H. Rob., *C. pileorubrum* Cuatrec., *C. sarmentosum* Cuatrec., and *C. scandens* Cuatrec. each have leaves strigose abaxially and these four names are accepted as synonyms of *C. pentaneuron*, as proposed by Arriagada (1995, 2003). The stems of *C. arriagadae* are hirsutulous throughout, thus differing from those of *C. pentaneuron* (Ecuador and Colombia), which are sometimes strigose.

Arriagada (1995, 2003) reduced *C. funkiae* (Antioquia, Colombia) to synonymy of *C. pentaneuron*. At one point, I thought that the prominent resin ducts in the phyllaries some material from Antioquia and in *Forero et al.* 2279 (MO; Chocó, Colombia near border with the northern limits of Valle, Colombia) could be used to distinguish this material from the generally more southern *C. pentaneuron*. However, the collection from Chocó is near the center of distribution of *C. pentaneuron*, and other material of *C. pentaneuron* from Antioquia lacks the prominent phyllary resin ducts. Thus, there seems to be no meaningful morphological features that one could use to split the Colombia material of *C. pentaneuron* into more than a single taxon. Indeed, this was the observation of Arriagada (1995, 2003), the monographer who reduced *C. funkiae* to synonymy. Moreover, no case for geographic separation of *C. funkiae* as distinct from *C. pentaneuron* can be made. Thus, I recognize *C. pentaneuron* in a slightly narrower concept than does Arriagada (1995, 2003), and segregate only *Clibadium arriagadae* from it.

The morphological distinctions among relatives of *C. pentaneuron* are provided below in the key to species, which modifies couplet #27 of Arriagada (1995, 2003).

KEY TO THE SPECIES CENTERING ABOUT *CLIBADIUM PENTANEURON*

- 27. Abaxial leaf surface hirsute; leaf blade generally palmately veined from or near base (Ecuador) _____ ***Clibadium arriagadae*** Pruski
- 27. Abaxial leaf surface generally strigose; leaf blade pinnately veined or if plinerved then from well above base.
 - 27.1 Most phyllaries apically acute to acuminate; capitula 24–28-flowered; marginal florets 9–13; disk florets ca. 15 (Ecuador) _____ ***Clibadium manabiense*** H. Rob.
 - 27.1 Most phyllaries apically obtuse to acute; capitula 10–14-flowered; marginal florets 5 or 6; disk florets 5–8 (Colombia and Ecuador) _____ ***Clibadium pentaneuron*** S.F. Blake

CONYZA

Conyza bifrons L. (= *Inula bifrons* L., Inuleae) is lectotypified upon material from the Old World, and this name is thus excluded from the flora of the New World. The new combination *C. popayanensis* (Hieron.) Pruski (Astereae) from the Andes is proposed to replace the illegitimate *C. uliginosa* (Benth.) Cuatr., non Pers. Although *C. primulifolia* (Lam.) Cuatrec. (which includes as a synonym

C. chilensis Spreng., the type of *Conyza*) was transferred to *Erigeron* L. by Greuter (2003), I recognize *Conyza* at the generic rank.

***Inula bifrons* L.**, Sp. Pl. (ed. 2) 1236. 1763. LECTOTYPE (designated by Anderberg, Taxon 47:363. 1998): EUROPE: "Habitat in Italia, Galloprovincia, Pyrenaeis," *sin. coll.* (LINN 993.11 [IDC microfiche 177.577.11.5]).

Conyza bifrons L. var. *bifrons*, Sp. Pl. 861. 1753. *Pluchea bifrons* (L.) DC., Prodr. 5:451. 1836. LECTOTYPE (designated here): EUROPE: "Habitat in Pyrenaeis, Canada," *sin. coll.* (BM-CLIFF folio page 405, *Conyza* 3 [barcode BM000647043], photograph MO).

Conyza bifrons var. *flosculosa* L., Sp. Pl. 862. 1753. LECTOTYPE (designated by Reveal, Taxon 47:358. 1998): EUROPE: "Habitat in Pyrenaeis, Canada," *sin. coll.* (BM-SLOANE vol. 96, page 26).

Conyza bifrons var. *radiata* L., Sp. Pl. 861. 1753. LECTOTYPE (designated by Anderberg, Taxon 47:358. 1998), t. 127 as "*Conyza pyraenaica foliis primulae veris*" in Hermann, Parad. Bat., 127. 1698.

Distribution and ecology.—*Inula bifrons* is a summer flowering herb to 1 m tall. It occurs from the Pyrenees of southern France eastwards into Romania and Bulgaria (Tutin et al. 1976).

Linnaeus (1753) named *Conyza bifrons* L. and two varieties of it, giving the locality of "Habitat in Pyrenaeis, Canada" for all three names. Later, Linnaeus (1763: 1207) treated *C. bifrons* as being solely American and represented by Plukenet plate 87 figure 4 (1705), thought to have been drawn from Canadian material, whereas simultaneously Linnaeus proposed the heterotypic *Inula bifrons* L. (1763: 1236), with similar auriculate-clasping leaves, for the European elements. *Pluchea bifrons* (L.) DC. (Pluchaceae) was misapplied to material from the Americas by Candolle (1836), as noted by Godfrey (1952), who used the name *P. foetida* (L.) DC. for American plants formerly called *P. bifrons*. Gray (1884: 225) noted that the Plukenet plate was drawn from material collected in Europe, not Canada; thus no original material of either *C. bifrons* L. or *I. bifrons* L. is from the Americas.

Conyza bifrons L., however, has not previously been lectotypified (C. Jarvis, pers. comm.). Linnaeus (1763) restricted the concept *C. bifrons* (1753) to plants he thought to be American, thus potential for misapplication of this name to plants from the Americas remains. Because Linnaeus (1753, 1763) cited a polynomial from Linnaeus (1737), *C. bifrons* L. is lectotypified here by a specimen in the Clifford herbarium, this specimen referable taxonomically to *I. bifrons* L. (Inuleae). *Conyza bifrons* L. is thus excluded formally from the flora of the New World, in agreement with Godfrey (1952) and Tutin et al. (1976).

The name *C. uliginosa* (Benth.) Cuatrec., used for a northern Andean herb (e.g., Aristeguieta 1964; Cuatrecasas 1967; Jorgensen & León-Yáñez 1999), is an illegitimate later homonym of *C. uliginosa* Pers., Synops. 2:427. 1807. A new combination based on the senior synonym given by Cuatrecasas (1969) is thus proposed.

***Conyza popayanensis* (Hieron.) Pruski, comb. nov.** *Erigeron popayanensis* Hieron., Bot. Jahrb. Syst. 28:586. 1901. TYPE: COLOMBIA: CAUCA: Páramo de Guanacas, Andium centralium

popayanensium, 3000–3500 m, Aug. no year given, *Lehmann* 7962 (HOLOTYPE: B, destroyed, photograph sub Field neg. #14855; MO; LECTOTYPE (designated by Cuatrecasas, Webbia 24:217, 1969): K; ISOTYPES: FI, P, US [photograph: MO]).

- Erigeron uliginosus* Benth., Pl. Hartw. 204. 1845, as "uliginosum." *Conyza uliginosa* (Benth.) Cuatrec., Webbia 24:216. 1969, non Pers. 1807, TYPE: ECUADOR: PICHINCHA: In uliginosis ad Hacienda de Chisinche sub Volcán Illiniza (as "monte Illiniza" in protologue), 1842, *Hartweg* 1131 (HOLOTYPE: K; ISOTYPES: G [photograph sub F neg. 28634; MO], NY [photograph: MO], P, W). "Hacienda de Chisinche" is a few kms NE of Illiniza, thus presumably in Prov. Pichincha.
- Erigeron sulcatus* var. *columbianus* Hieron., Bot. Jahrb. Syst. 28:586. 1901, as "columbiana." *Conyza uliginosa* var. *columbiana* (Hieron.) Cuatrec., Phytologia 9:5. 1963. COLOMBIA. CUNDINAMARCA: In silvis montanis densis locis humidis supra Sibaté, 2800 m, 3 Feb 1883, *Lehmann* 2535 (HOLOTYPE: B, destroyed; ISOTYPE: US).
- Erigeron bonariensis* var. *meridensis* Cuatrec., Trab. Mus. Nac. Ci. Nat., Ser. Bot. 33:132. 1936. LECTOTYPE (chosen from among syntypes by Cuatrecasas, Webbia 24:216. 1969): VENEZUELA. MÉRIDA: Serra Nevada de Mérida, s.d., *Moritz* 1373 (LECTOTYPE: P). "Moritz 1373" was not cited specifically in the protologue, but rather only indirectly by name attribution of "Sch. Bip. in schedam." It seems best to accept the lectotypification of Cuatrecasas (1969).

Distribution and ecology.—*Conyza popayanensis* (Hieron.) Pruski occurs from 2500–4400 meters elevation in the Andes of Venezuela, Colombia, Ecuador, and Peru.

Conyza popayanensis is a branched perennial herb with sessile leaves and a generally dense corymbiform capitulescence with peduncles generally much shorter than 5 mm. The capitula have pubescent subequal long-triangular phyllaries with a broad central colored portion and broad stramineous margins, and the marginal florets have entire or nearly so corolla limbs generally about 0.5 mm long. Cuatrecasas (1969) noted that one of the two plants on the destroyed Berlin holotype had an open capitulescence. Nevertheless, this plant on the destroyed holotype has weakly pubescent leaves typical of this species.

Colombian *Conyza uliginosa* var. *hirsuta* (Hieron.) Cuatrec. [syn.: *Erigeron uliginosus* var. *hirsutus* Hieron., Bot. Jahrb. Syst. 28:587 1901, as "hirsuta"] was recognized by Cuatrecasas (1969). This taxon resembles *C. popayanensis*, but has more densely pubescent herbage, an open capitulescence, peduncles to 20 mm long, narrower phyllaries, and marginal florets with sometimes deeply bifid corolla limbs often to about 1 mm long. Because I have not seen type material of this name, I decline to synonymize it or to recognize it at the species rank. If further study shows that *C. uliginosa* var. *hirsuta* deserves specific recognition, it should be noted that Chinese *C. hirsuta* L. blocks the transfer to *Conyza* of this varietal name.

LLERASIA

The below combination is provided for a Bolivian species of Compositae tribe Astereae, originally described as a species of tribe Mutisieae.

Llerasia macrocephala (Rusby) Pruski, comb. nov. *Moquinia macrocephala* Rusby, Descr. S. Amer. Pl. 162. 1920. *Gochnatia macrocephala* (Rusby) Cabrera, Notas Mus. La Plata, Bot. 15:41.

1950. TYPE BOLIVIA. LA PAZ: North Yungas, Unduavi, 3300 m [as "3000 m" in protologue]. Nov 1910. *Buchtien* 3080 (HOLOTYPE NY; ISOTYPE US [holotype of *Haplopappus lucidulus* S.F. Blake]).

Haplopappus lucidulus S.F. Blake, Amer. J. Bot. 14:114. 1927 (as "*Aplopappus*"). *Llerasia lucidula* (S.F. Blake) Cuatrec., Biotropica 2:43. 1970. TYPE BOLIVIA. LA PAZ: North Yungas, Unduavi, 3300 m. Nov 1910. *Buchtien* 3080 (HOLOTYPE US; ISOTYPE NY [holotype of *Moquinia macrocephala* Rusby]).

Distribution and ecology.—*Llerasia macrocephala* (Rusby) Pruski is a vining shrub occurring from 2500–3300 meters elevation in Bolivia.

Because of similar leaf surfaces occasionally closely tomentose abaxially, species of *Vernonieae* (especially those of *Piptocarpha*) and discoid species of *Mutisieae* (especially those of *Gochnatia* H.B.K.) are occasionally confused. For example, Badillo (1994), Pruski (1997), and Sancho (1999) treated *Piptocarpha upatensis* V.M. Badillo as a species *Gochnatia*. *Stiffia axillaris* G.M. Barroso & Vinha, described by Barroso and Vinha (1970) as a species of *Mutisieae*, was recognized by Robinson (1979) as a species of *Piptocarpha* (*Vernonieae*). Similarly, *Moquinia macrocephala*, described by Rusby (1920) as having leaf surfaces closely tomentose abaxially and as a species of *Mutisieae* (in the *Gochnatia* generic alliance), is here treated as a member of tribe *Astereae*.

Rusby (1920) described *Buchtien* 3080 (NY) as *Moquinia macrocephala* (*Mutisieae*). Later, Blake (1927) noted that at US *Buchtien* 3080 was filed as an undetermined species of *Gochnatia*, but actually belonged to tribe *Astereae*, where he described it as *Haplopappus lucidulus*. Blake (1927) treated most of the 11 species of *Llerasia* as *Haplopappus* [sub "*Aplopappus*"] sect. *Diplostephioides* (Benth. & Hook. f.) S.F. Blake, whereas Cuatrecasas (1970) resurrected *Llerasia* (tribe *Astereae*) from synonymy of *Haplopappus*.

In a pollen review, Wodehouse (1929; figure 8) noted that by spiny pollen *Moquinia macrocephala* stands apart from taxa of the *Moquinia-Gochnatia* plexus. Cabrera (1971) treated most *Moquinias* under *Gochnatia*, but excluded *Gochnatia macrocephala* (Rusby) Cabrera from *Gochnatia*. I agree with Blake (1927), Wodehouse (1929), and Cabrera (1971) that *Buchtien* 3080 belongs to *Astereae* rather than to *Mutisieae*. Here I provide the combination *Llerasia macrocephala* (Rusby) Pruski, which replaces the synonymous *L. lucidula* (S.F. Blake) Cuatrec., the latter recognized by Cuatrecasas (1970).

PLUCHEA

Britten (1898) noted that *Conyza baccharis* Miller, partly characterized by auriculate-clasping leaves with broad serrulate blades and reddish florets, is conspecific with *Pluchea bifrons* (L.) DC. sensu Candolle (1836). Godfrey (1952), however, recognized the white-flowered North American populations formerly called *P. bifrons* as *P. foetida* (L.) DC. *Conyza bifrons* L., as lectotypified above on European material, indeed is a heterotypic synonym of European *Inula bifrons* L. Godfrey (1952) also segregated most of the reddish-purple flowered popula-

tions formerly called *P. bifrons* as *P. rosea* R.K. Godfrey, which subsequently has been widely recognized (e.g., Cronquist 1980; Nesom 1989; Arriagada 1998). The lectotype of *Conyza baccharis* has very densely pubescent outer phyllaries and florets with reddish corollas. The earlier *C. baccharis* is thus conspecific with *P. rosea*, and the needed new combination for *Flora Mesoamericana* and *Flora North America* is proposed herein, this updating the earlier identification of *C. baccharis* by Britten (1898).

Pluchea baccharis (Mill.) Pruski, comb. nov. *Conyza baccharis* Mill., Gard. Dict. (ed. 8) *Conyza* no. 16. 1768. LECTOTYPE (designated here): MEXICO. CAMPECHE: "Grows naturally at Campeachy," *sin. coll.* (BM [barcode BM000833507], photograph MO). Material grown in the Chelsea garden by Philip Miller is not extant. The Mexican material was presumably gathered by Robert Millar, who also sent *Conyza* no. 15 from "Campeachy" to Philip Miller.

? *Baccharis viscosa* Walter, Fl. Carol. 202. 1788, hom. illegit., non Lam. 1785. TYPE: U.S.A.: locality unknown, not seen in BM microfiche of Walter's herbarium. Walter's description partly reads "Varietates, floribus albis, et floribus rubris." I do not know of this name being lectotypified, but if it were to be lectotypified on the reddish-flowered material it would seemingly belong here in synonymy.

Pluchea rosea R.K. Godfrey, J. Elisha Mitchell Sci. Soc. 68:266. 1952. TYPE: U.S.A. FLORIDA. Lake Co.: lake shores, vicinity of Eustis, 16–31 May 1894, Nash 758 (HOLOTYPE: GH; ISOTYPES: F, MO, NY, UC, US).

Distribution and ecology.—This is a coastal plain species occurring (see Godfrey 1952; Nesom 1989; Arriagada 1998) in the southeastern United States (North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas), the Bahamas, Cuba, Mexico, and Mesoamerica (Campeche, Quintana Roo, Belize, Honduras, Nicaragua).

Pluchea baccharis (Mill.) Pruski is very similar and most closely related to *P. foetida* (L.) DC. (Cronquist 1980; Nesom 1989; Arriagada 1998), from which it differs most notably by pinkish or reddish (vs. generally white) corollas. *Pluchea baccharis* also tends to have a less dense capitulescence, shorter and more densely pubescent phyllaries, and narrower capitula than does *P. foetida*. Villaseñor (1989) noted that the report by Sousa and Cabrera (1983) of *P. foetida* as occurring in Quintana Roo was based on a misdetermination. A collection from Veracruz, Mexico is the sole Mexican or Central American collection of *P. foetida* reported by Nesom (1989), and the material from Veracruz seen by me is referred here to *P. baccharis*.

Pluchea baccharis is also similar to *P. longifolia* Nash, *P. mexicana* (R.K. Godfrey) G.L. Nesom (described as a var. of *P. rosea*), and *P. yucatanensis* G.L. Nesom. *Pluchea baccharis* differs from *P. longifolia* by smaller capitula and smaller leaves, from *P. mexicana* by abaxially sessile-glandular (vs. stipitate glandular) leaves, and from *P. yucatanensis* by abaxially hirsute and glandular (vs. solely sessile-glandular) leaves. Godfrey (1952) listed the illegitimate and non-tyfified *Baccharis viscosa* as a synonym of *P. foetida* (L.) DC.

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